

Docket No. 2003-115-TAP

CLAIMS:

What is claimed is:

- 1 1. An automated tape library system, comprising:
 - 2 a first tape library;
 - 3 a second tape library located adjacent to said first
 - 4 tape library; and
 - 5 an exchange unit for transporting at least one tape
 - 6 storage unit from said first tape library to said second
 - 7 tape library, said exchange unit arranged between said
 - 8 first tape library and said second tape library, said
 - 9 exchange unit comprising:
 - 10 a movable transport unit, said movable transport
 - 11 unit for transport of said at least one tape storage unit
 - 12 from said first tape library to said second tape library;
 - 13 a movable drive unit, said movable drive unit linked
 - 14 to said movable transport unit; and
 - 15 a direction translation unit coupled to said movable
 - 16 transport unit and said movable drive unit, said
 - 17 direction translation unit operable to translate a
 - 18 forward and reverse stroke in a first axis directed
 - 19 parallel to a sidewall of said first tape library and a
 - 20 sidewall of said second tape library to a radial movement
 - 21 of said movable transport unit directed toward and away
 - 22 from said sidewall of said first tape library or toward
 - 23 and away from said sidewall of said second tape library.

Docket No. 2003-115-TAP

1 2. The automated tape library system of Claim 1,
2 wherein said first tape library comprises an automated
3 magnetic tape cartridge library.

1 3. The automated tape library system of Claim 1,
2 wherein said at least one tape storage unit comprises a
3 magazine.

1 4. The automated tape library system of Claim 1,
2 wherein said movable transport unit comprises a magazine
3 carriage.

1 5. The automated tape library system of Claim 1,
2 wherein said movable drive unit comprises a drive
3 carriage.

1 6. The automated tape library system of Claim 1,
2 wherein said radial movement of said movable transport
3 unit comprises a movement guided by a radial track.

1 7. The automated tape library system of Claim 1,
2 wherein said sidewall of said first tape library includes
3 a first pass-through port, and said sidewall of said
4 second tape library includes a second pass-through port.

1 8. The automated tape library system of Claim 1,
2 wherein said direction translation unit comprises:
3 a drive motor coupled to said drive carriage;
4 a linkage coupling said drive carriage to said
5 magazine carriage;

Docket No. 2003-115-TAP

6 a right radial track for guiding movement of said
7 magazine carriage toward or away from said second tape
8 library; and

9 a left radial track for guiding movement of said
10 magazine carriage toward or away from said first tape
11 library.

1 9. A method for exchanging cartridges between a first
2 tape library and a second tape library located adjacent
3 to said first tape library, comprising the steps of:

4 activating a forward or reverse stroke in a first
5 axis directed parallel to a sidewall of said first tape
6 library and a sidewall of said second tape library; and

7 translating said forward and reverse stroke to a
8 radial movement of a movable transport unit directed
9 toward and away from said sidewall of said first tape
10 library or toward and away from said sidewall of said
11 second tape library.

1 10. The method of Claim 9, wherein said first tape
2 library comprises an automated magnetic tape cartridge
3 library.

1 11. The method of Claim 9, further comprising a movable
2 drive unit coupled to said movable transport unit, said
3 movable drive unit performing said forward and reverse
4 stroke.

1 12. The method of Claim 9, wherein said movable
2 transport unit comprises a magazine carriage.

Docket No. 2003-115-TAP

1 13. The method of Claim 9, wherein said movable drive
2 unit comprises a drive carriage.

1 14. The method of Claim 9, wherein said radial movement
2 of said movable transport unit comprises a movement
3 guided by a radial track.

1 15. The method of Claim 9, wherein said sidewall of said
2 first tape library includes a first pass-through port,
3 and said sidewall of said second tape library includes a
4 second pass-through port.

1 16. The method of Claim 9, wherein the translating step
2 is performed by a direction translation unit comprising:
3 a drive motor coupled to said movable drive unit;
4 a linkage coupling said movable drive unit to said
5 movable transport unit;
6 a right radial track for guiding movement of said
7 movable transport unit toward or away from said second
8 tape library; and
9 a left radial track for guiding movement of said
10 movable transport unit toward or away from said first
11 tape library.

1 17. A computer program product in a computer readable
2 medium for use in exchanging cartridges between a first
3 automated tape library and a second automated tape
4 library located adjacent to said first automated tape
5 library, the computer program product comprising:

Docket No. 2003-115-TAP

6 first instructions for activating a forward or
7 reverse stroke in a first axis directed parallel to a
8 sidewall of said first automated tape library and a
9 sidewall of said second automated tape library; and
10 second instructions for translating said forward and
11 reverse stroke to a radial movement of a movable
12 transport unit directed toward and away from said
13 sidewall of said first automated tape library or toward
14 and away from said sidewall of said second automated tape
15 library.

1 18. The computer program product of Claim 17, wherein
2 said first tape library comprises an automated magnetic
3 tape cartridge library.

1 19. The computer program product of Claim 17, further
2 comprising a movable drive unit coupled to said movable
3 transport unit, said movable drive unit performing said
4 forward and reverse stroke.

1 20. The computer program product of Claim 17, wherein
2 said movable transport unit comprises a magazine
3 carriage.